IN THE CLAIMS

1. (Currently Amended) A digital signal conversion method comprising the steps of:

extracting a predetermined subset from a complete set of orthogonal transform coefficients from each of at least two blocks generated after orthogonally transforming said at least two blocks of a digital signal of a first format, thus producing partial orthogonal transform coefficients comprising less than said complete set of orthogonal transform coefficients from each of said at least two blocks;

carrying out inverse orthogonal transform processing of the extracted partial orthogonal transform coefficients of each of said at least two blocks;

forming a new coupled block by connecting adjacent blocks represented by said extracted partial orthogonal transform coefficients of each of said at least two blocks; and

orthogonally transforming the coupled new block, thus generating a second digital signal of a second format consisting of new orthogonal transform coefficients, said new orthogonal transform coefficients being composed of the predetermined subsets of said orthogonal transform coefficients of each of said at least two blocks;

wherein said forming step multiplies a first matrix, a second matrix and a third matrix, so as to form said new coupled block, said first matrix comprising said partial orthogonal transform coefficients, said second matrix comprising two inverse discrete transform matrices on a diagonal and said third matrix comprising discrete transform coefficients.

2. (Previously Presented) The digital signal conversion method as claimed in claim 1, wherein the orthogonal transform is a discrete cosine transform, the digital signal of the first format is a video signal compression-coded at a predetermined fixed rate using variable-length coding, and the digital signal of the second format is a video signal compression-coded at a variable rate.

3. (Previously Presented) The digital signal conversion method as claimed in claim 1, wherein at the extracting step, discrete cosine transform coefficients on a low-frequency side are extracted from said at least two blocks of the digital signal of the first format, and the number of discrete cosine transform coefficients of a horizontal component of a luminance signal, the number of discrete cosine transform coefficients of a horizontal component of a color-different signal and the number of discrete cosine transform coefficients of a vertical component thereof are reduced.

4. (Previously Presented) The digital signal conversion method as claimed in claim 1, wherein one frame of the digital signal of the first format is comprised of two sub-frames,

at the extracting step, field separation for separating discrete cosine transform coefficients constituting lines of an odd field of one of the sub-frames and discrete cosine transform coefficients constituting lines of an even field of one of the sub-frames, and

generating a predetermined subset consisting of the discrete cosine transform coefficients of one of the fields.

5. (Original) The digital signal conversion method as claimed in claim 1, wherein the digital signal of the first format is a compressed video signal having a resolution of 720x480 pixels and a ratio of the sampling frequency of a luminance signal to the sampling frequencies of color-difference signals equal to 4:1:1, and the digital signal of the second format is a compressed video signal having a resolution of 360x240 pixels and a ratio of the sampling frequency of a luminance signal to the sampling frequencies of color-difference signals equal to 4:2:0.

6. (Original) The digital signal conversion method as claimed in claim 1, wherein the digital signal of the first format is a compressed video signal having a resolution of 720x480 pixels and a ratio of the sampling frequency of a luminance signal to the sampling frequencies of color-difference signals equal to 4:2:0, and the digital signal of the second format is a compressed video signal having a resolution of 360x240 pixels and a ratio of the sampling frequency of a luminance signal to the sampling frequencies of color-difference signals equal to 4:2:0.

7. (Previously Presented) The digital signal conversion method as claimed in claim 1, wherein at the extracting step, orthogonal transform coefficients on a low-frequency side are extracted from said at least two blocks of the digital signal of the first format, and the number of discrete cosine transform coefficients of a vertical component of a color-difference signal is reduced to ½.

8. (Original) The digital signal conversion method as claimed in claim 7, wherein the digital signal of the first format is a compressed video signal having a resolution of 720x480 pixels and a ratio of the sampling frequency of a luminance signal to the sampling frequencies of color-difference signals equal to 4:1:1, and the digital signal of the second format is a compressed video signal having a resolution of 720x480 pixels and a ratio of the sampling frequency of a luminance signal to the sampling frequencies of color-difference signals equal to 4:2:0.

Claims 9-13. (Canceled)

14. (Currently Amended) A digital signal conversion device comprising:

decoding means for decoding a digital signal of a first format consisting of orthogonal transform coefficients;

inverse quantization means for inversely quantizing the decoded digital signal;

resolution conversion means for orthogonally transforming at least two blocks of said inversely quantized decoded digital signal and for extracting a predetermined subset from a complete set of said orthogonal transform coefficients from each of said at least two blocks of the digital signal of a first format, thus producing partial orthogonal transform coefficients comprising less than said complete set of orthogonal transform coefficients from each of said at least two blocks and forming a new coupled block by connecting adjacent blocks represented by said extracted partial orthogonal transform coefficients of each of said at least two blocks;

quantization means for quantizing the digital signal processed by the resolution conversion means and including the new coupled block; and

coding means for coding the quantized digital signal, thus generating a second digital signal of a second format consisting of new orthogonal transform coefficients, said new orthogonal transform coefficients being composed of the predetermined subsets of said orthogonal transform coefficients of each of said at least two blocks;

wherein said resolution conversion means multiplies a first matrix, a second matrix and a third matrix, so as to form said new coupled block, said first matrix comprising said partial orthogonal transform coefficients, said second matrix comprising two inverse discrete transform matrices on a diagonal and said third matrix comprising discrete transform coefficients.

15. (Previously Presented) The digital signal conversion device as claimed in claim 14, wherein the resolution conversion means forms the new coupled block by connecting the adjacent blocks represented by the inversely orthogonally transformed partial coefficients.

16. (Previously Presented) The digital signal conversion device as claimed in claim 14, wherein the orthogonal transform is a discrete cosine transform, the digital signal of the first format is a video signal compression-coded at a predetermined fixed rate using variable-length coding, and the digital signal of the second format is a video signal compression-coded at a variable rate.

17. (Previously Presented) The digital signal conversion device as claimed in claim 16, wherein the resolution conversion means extracts orthogonal transform coefficients on a low-frequency side from said at least two blocks of the digital signal of the first format, and reduces the number of discrete cosine transform coefficients to ½.

18. (Currently Amended) A digital signal conversion device comprising:

decoding means for decoding a digital signal of a first format consisting of orthogonal transform coefficients;

inverse quantization means for inversely quantizing the decoded digital signal;

resolution conversion means for orthogonally transforming at least two blocks of said inversely quantized decoded digital signals and for interpolating a predetermined subset from a complete set of said orthogonal transform coefficients comprising less than said complete set of orthogonal transform coefficients from each of said at least two blocks of the digital signal of a first format with an orthogonal transform coefficient of a predetermined value, thus producing partial orthogonal transform coefficients from each of said at least two blocks and forming a new coupled block by connecting adjacent blocks represented by said extracted partial orthogonal transform coefficients of each of said at least two blocks;

quantization means for quantizing the digital signal processed by the resolution conversion means and including the new coupled block; and

coding means for coding the quantized digital signal, thus generating a second digital signal of a second format consisting of new orthogonal transform coefficients, said new orthogonal transform coefficients being composed of the predetermined subsets of said orthogonal transform coefficients of each of said at least two blocks;

wherein said resolution conversion means multiplies a first matrix, a second matrix and a third matrix, so as to form said new coupled block, said first matrix comprising said partial orthogonal transform coefficients, said second matrix comprising two inverse discrete transform matrices on a diagonal and said third matrix comprising discrete transform coefficients.

19. (Previously Presented) The digital signal conversion device as claimed in claim 18, wherein the resolution conversion means interpolates with 0 a high-frequency side of the orthogonal transform coefficients of the at least two divided blocks of the digital signal of the first format.

Claims 20-76. (Canceled)